

## WHAT IS CLAIMED IS:

1. A myostatin immunoconjugate comprising a full length myostatin polypeptide linked to a carrier.
2. The immunoconjugate of claim 1 which comprises an avian myostatin polypeptide.
3. The immunoconjugate of claim 2 which comprises a turkey myostatin polypeptide comprising SEQ ID NO:2.
4. The immunoconjugate of claim 1 which comprises a vertebrate myostatin polypeptide.
5. The immunoconjugate of claim 1 wherein the carrier is keyhole limpet hemocyanin.
6. The immunoconjugate of claim 1 which comprises a fusion polypeptide.
7. A vaccine or immunogenic composition comprising the immunoconjugate of claim 1.
8. The vaccine or immunogenic composition of claim 7 which comprises a pharmaceutically acceptable excipient.
9. A method for increasing muscle mass in progeny of an egg-laying vertebrate comprising:
  - (a) administering to the egg-laying vertebrate or to an egg of the vertebrate the vaccine of claim 7; and

(b) obtaining progeny of the vertebrate which have increased muscle mass relative to a progeny from a corresponding vertebrate which was not administered the vaccine.

10. The method of claim 9 wherein the vertebrate is an avian.
11. The method of claim 10 wherein the avian is a turkey.
12. The method of claim 9 wherein the muscle mass in progeny from the vaccinated vertebrate is increased by 5%.
13. The method of claim 9 wherein progeny from the vaccinated vertebrate have an increase in body weight, a reduction in body fat content, an increase in testis size, or any combination thereof
14. The method of claim 9 wherein the progeny have an increase in breast or thigh muscle weight.
15. The method of claim 9 wherein the vaccine comprises a myostatin polypeptide linked to a carrier.
16. The method of claim 15 wherein the vaccine comprises a myostatin polypeptide linked to keyhole limpet hemocyanin.
17. A method to passively immunize progeny of a female vertebrate, comprising:
  - (a) administering the vaccine of claim 7 to the vertebrate prior to, during or after fertilization, or any combination thereof, of at least one egg of the vertebrate; and
  - (b) obtaining progeny from the fertilized egg which comprise anti-myostatin antibodies.

18. A method to decrease body fat in a vertebrate, comprising:  
(a) administering to a female vertebrate the vaccine of claim 7; and  
(b) obtaining progeny of the female vertebrate which have decreased body fat relative to a progeny of a corresponding female vertebrate which was not administered the vaccine.
19. The method of claim 17 or 18 wherein the vertebrate is a livestock animal.
20. The method of claim 17 or 18 wherein the vertebrate is an egg-laying vertebrate.
21. The method of claim 17 wherein the progeny exhibit an increase in body weight, an increase in muscle mass, a reduction in body fat content, an increase in testis size, or any combination thereof.
22. The method of claim 17 or 18 wherein the vertebrate is a turkey or chicken.
23. The method of claim 17 or 18 wherein the vertebrate is a pig.
24. The method of claim 18 wherein the progeny exhibit an increase in body weight, an increase in muscle mass, an increase in testis size, or any combination thereof.
25. A method to increase testes size in a vertebrate, comprising:  
(a) administering to a female vertebrate the vaccine of claim 7; and  
(b) obtaining male progeny of the female vertebrate which have an increase in testes size relative to a male progeny of a corresponding female vertebrate which was not administered the vaccine.
26. A method to increase testes size in a vertebrate, comprising:

administering the vaccine of claim 7 to the vertebrate so as to result in the vertebrate having an increase in testes size.

27. The method of claim 25 or 26 wherein the vertebrate is a turkey or chicken.
28. The method of claim 25 or 26 wherein the vertebrate is a pig.